

UNITED STATES  
DEPARTMENT OF LABOR  
MINE SAFETY AND HEALTH ADMINISTRATION  
METAL AND NONMETAL MINE SAFETY AND HEALTH  
REPORT OF INVESTIGATION

Surface Nonmetal Mine  
(Sand & Gravel)

Fatal Falling Material Accident  
January 30, 2004

Khani Co. Inc.  
Khani K100  
Deming, Luna County, New Mexico  
ID No. 29-02252

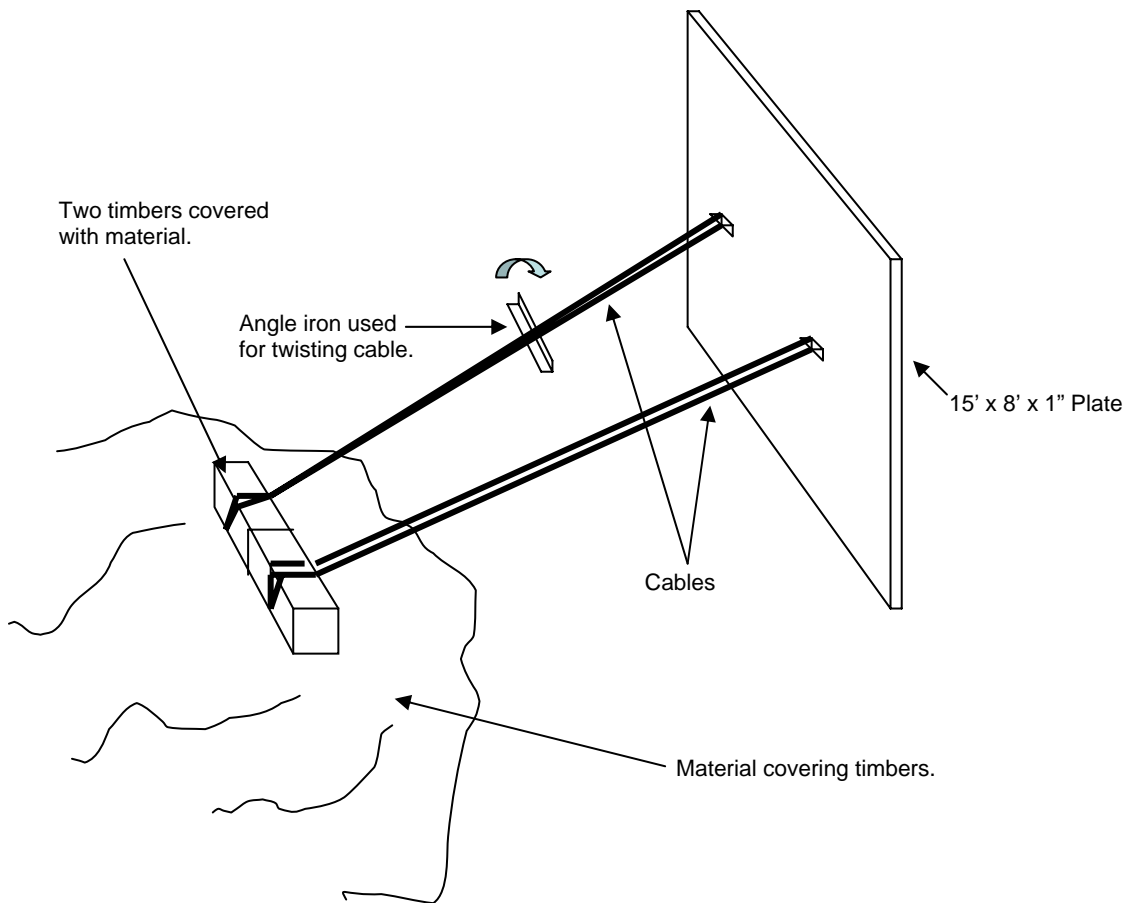
Accident Investigators

Ralph Rodriguez  
Supervisory Mine Safety and Health Inspector

Emilio Perales  
Mine Safety and Health Inspector

Robert S. Setren  
Mechanical Engineer

Originating Office  
Mine Safety and Health Administration  
South Central District  
1100 Commerce Street, Room 462  
Dallas, Texas 75242  
Edward E. Lopez, District Manager



## **OVERVIEW**

On January 30, 2004, Isaac Tabor, plant manager, age 60, was fatally injured when a steel plate he was erecting as a ramp bulkhead, fell crushing him. Tabor was using a piece of angle iron to tension one of two anchor cables when the plate fell.

The accident occurred because the plate was resting on its edge, leaning against wood timbers and was not blocked or secured to prevent it from falling. The victim positioned himself within the fall zone of the plate while attempting to remove slack from the cables connecting the plate to a buried anchor.

## **GENERAL INFORMATION**

Khani K100, a sand and gravel portable plant, owned and operated by Khani Co. Inc., was located on highway 180 at mile marker 149, 15 miles North of Deming, Luna County, New Mexico. The principal operating official was Naser Alikhani, president. The mine was scheduled to operate one, 10-hour shift, five days a week. The plant was recently brought to this location and was being set up at the time of the accident. Total employment was four persons.

Sand and gravel was to be mined from a single bench pit and hauled by front-end loader to the Chieftan Power Screen. The material was to be crushed, sized, and screened. The finished products were to be sold for road construction aggregates.

The last regular inspection for this portable plant was completed on September 9, 2003, at another location.

## **DESCRIPTION OF ACCIDENT**

Isaac Tabor (victim) and Andrew Tabor (plant operator) started to construct a ramp for the Power Screen the previous day. They had leveled the ground and positioned a 15 feet wide by 8 feet high plate in a near vertical position against timbers that leaned against the plant. Andrew Tabor had welded pieces of angle iron to the plate and cut holes in them with a torch to make eyelets for the anchor cables. Isaac Tabor installed cables through the eyelets and wrapped them around anchor timbers.

On the day of the accident, Isaac Tabor arrived for work at 6:50 a.m., his normal starting time. He assigned tasks to Daniel Flores, Jr., mechanic, and his son Andrew Tabor.

After assigning these tasks, Isaac Tabor went to the site of the new earthen ramp and placed several loader buckets of soil on the anchor timbers he set the day before. He then began to tension the cables using a piece of angle iron.

When the accident occurred, James R. McCullough, plant operator, was checking the tension of the belts on the VSI crusher. Flores and Andrew Tabor were on the opposite side of the power screen, discussing the repair work needed for the hydraulic tank filler cap when they heard a loud thump.

Andrew Tabor ran around the power screen and noticed that the plate had fallen on his father.

Everyone responded and emergency medical assistance was called. The loader was used to lift the plate off the victim. Cardio pulmonary resuscitation was conducted before medical assistance arrived. When the emergency medical technicians arrived, they summoned the State Medical Examiner, who pronounced the victim dead at the scene. The cause of death was attributed to massive trauma.

### **INVESTIGATION OF ACCIDENT**

Jerry Millard, MSHA supervisory inspector was notified of the accident at 8:00 a.m., on January 30, 2004, by a telephone call from Joe K. Kinnikin, director training & safety, Associated Contractors of New Mexico. An investigation began the same day. An order was issued pursuant to Section 103(k) of the Mine Act to ensure the safety of miners. MSHA's accident investigation team traveled to the mine; conducted a physical inspection of the accident scene, interviewed employees, and reviewed conditions along with work practices relevant to the accident. MSHA conducted the investigation with the assistance of mine management and the miners.

### **DICUSSION**

#### **Location of the Accident**

The accident occurred at the portable screening plant where an earthen ramp was being constructed. The weather conditions were clear and dry, about 55 degrees with a 10-20 mile per hour southwest wind.

#### **Steel Bulkhead Plate**

The steel plate was 8 feet 1 inch high by 15 feet 1-5/8 inches long by 1 inch thick and weighed 4,900 pounds. Two eyelet plates, five feet from the base of the plate and three feet from each end, had been welded to the plate to be used as anchors.

#### **Position of the Bulkhead Plate**

The plate leaned against five timbers (8 inch by 8 inch by 8 feet long) that were placed against the plant feeder hopper. The steel plate was placed in a near vertical position leaning against the timbers. The plate was not secured against movement away from the plant. It was

determined that initially the plate leaned slightly off of vertical toward the power screen (away from victim).

#### **Bulkhead Plate Anchorage**

The plate was anchored on the ground, to two timbers (8 inch by 8 inch by 8 feet long) lying end to end, parallel to and 12 feet from the base of the plate. Two wire-rope cables, one-half inch in diameter, were wrapped around the timbers and through the two eyelets on the plate. The victim had dumped material on top of the timbers to secure them. He was adjusting the tension in one of the cables with a piece of angle iron when the plate fell forward on him.

#### **Previous Ramp Construction**

Two previous ramps had been constructed, one at this site, utilizing bulkhead plates. The ramps were constructed differently with two additional plates (4 feet high by 8 feet long by 1 inch thick) welded on each end of the bulkhead plate at about a 45 degree angle. The additional wing support plates provided stabilization for the bulkhead plate when the cables were tensioned.

#### **Experience and Training**

Isaac Tabor had a total of 40 years mining experience and had worked for this company for about six months. He had received training in accordance with 30 CFR, Part 46.

### **ROOT CAUSE ANALYSIS**

A root cause analysis was conducted and the following causal factors were identified:

**Causal Factor:** A miner positioned himself in an unsafe location near a heavy metal plate that had been resting on edge, leaning against wooden timbers. He attempted to take slack out of the anchor cables attached to the plate. When he tightened one of the cables, the plate fell on him.

**Corrective Action:** Miners should evaluate a task before performing work and ensure they do not position themselves where they are exposed to hazards. Steps should be taken to remove the hazard before starting the task.

**Causal Factor:** A risk analysis had not been done before constructing the ramp to identify hazards and implement measures to safely complete the work.

**Corrective Action:** Policies should be implemented requiring supervisors and employees to identify possible hazards and discuss steps that will be taken to ensure persons are properly protected.

**Causal Factor:** The bulkhead plate was about 5 degrees off vertical resting on its edge against the plant. It was not secured or blocked to prevent it from falling.

**Corrective Action:** Written procedures should be established to identify safe methods for building ramps that include installing the bulkhead plate. Personnel performing this task should discuss the procedures and be familiar with all measures to ensure safety.

### **CONCLUSION**

The accident occurred because the victim positioned himself in the fall zone of the plate while he was tensioning the anchor cables. No steps were taken to block or secure the plate which was resting on its edge, leaning against the plant.

### **ENFORCEMENT ACTIONS**

Order No. 6237784 was issued on January 30, 2004, under the provisions of Section 103(k) of the Mine Act:

A fatal accident occurred at this operation on January 30, 2004, when the miner was installing a 97 inch x 181 5/8 inch x one inch thick steel plate. This order is issued to assure the safety of all persons at this operation. It prohibits all activity at the power screen and the loading ramp until MSHA has determined that it is safe to resume normal operations in the area. The mine operator shall obtain prior approval from an authorized representative for all actions to recover and/or restore operations to the affected area.

The order was terminated on February 02, 2004. The conditions that contributed to the accident have been corrected and normal mining operations can resume.

Approve by: \_\_\_\_\_ Date: \_\_\_\_\_  
Edward E. Lopez  
District Manager

## **APPENDICES**

- A. Persons Participating in the Investigation
- B. Persons Interviewed



## **APPENDIX A**

### **Persons Participating in the Investigation**

#### **Khani Co. Inc.**

Naser Alikhani	president
William J. Loomis	engineer
Dennis L. Jackson	general superintendent
Joe K. Kinnikin	Associated Contractors of NM director of training & safety

#### **Luna County Sheriff's Department**

Jimmy Garcia	lieutenant
David Guerrero	deputy
Bobby Brookhouser	detective

#### **Mine Safety and Health Administration**

Ralph Rodriguez	supervisory mine safety and health inspector
Emilio Perales	mine safety and health inspector
Robert S. Setren	mechanical engineer

## APPENDIX B

### Persons Interviewed

#### Khani Company Inc.

Andrew I. Tabor	plant operator
Daniel Flores, Jr.	mechanic
James R. McCullough	plant operator
Dennis L. Jackson	general superintendent